UCRL-JC-125789 Abs

Novel Insulator Technology for Pulsed Power Systems

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A new, high gradient insulator technology has been developed for pulsed power and accelerator systems. The concept involves the use of alternating layers of conductors and insulators with periods on the order of 1 mm or less. These structures perform many times better than conventional insulators in both long pulse, short pulse and alternating polarity applications. Experimental data on these structures under a variety of conditions applicable to accelerator pulsed power systems will be reviewed.

This work was performed under the auspices of the U.S.Department of Energy by Lawrence Livermore National Laboratory under contract no. W-7405-Eng-48.